Amendments to the Specification:

On page 1, after the title, please insert the following paragraph:

This application is a national phase of PCT application PCT/GB2004/003337 filed on July 23, 2004, claiming priority based on Great Britain Patent Application No. 0317944.7 filed on July 31, 2003, and Great Britain Patent Application No. 0317945.4 filed on July 31, 2003, the contents of all of which are incorporated by reference in their entirety.

Please replace the text at p. 8, line 33-p. 9, line 6 with the following rewritten text:

Therefore, most preferred recombinant DNA molecules comprise a RAD54 regulatory element operatively linked to a DNA sequence that encodes a GFP or light emitting derivative thereof. Accordingly, a preferred recombinant vector according to the first aspect comprises the RAD54 gene operatively linked to GFP, or light emitting derivative thereof. It is especially preferred that the vector additionally comprises a non-functional kanMX3 module. Hence, most preferred recombinant vector according to the first aspect of the invention is pGen001, as illustrated in Figure 15. The nucleotide sequence of pGen001 is given in Figures 16 (SEQ ID NO:1) and 17 (SEQ ID NO:2).

Please replace the text at p. 10, lines 22-28 with the following rewritten text:

The regulatory element of RNR3 is particularly preferred. The sequence of this RNR3 element is well known and is illustrated in Figure 33 (SEQ ID NO:5). The gene is YIL066C, and the Figure 33 also shows 1000bp upstream of the ATG start codon, which is highlighted in bold. The total sequence length of RNR3 is

2610bp long. The RNR3 promoter is particularly suitable because its induction is DNA damage specific; there is low level expression under normal condition; and significant induction incurs in response to damage.

Please replace the text at p. 10, line 30-p. 11, line 6 with the following rewritten text:

Most preferred recombinant DNA molecules comprise an RNR2 or an RNR3 regulatory element operatively linked to a DNA sequence that encodes a GFP or light emitting derivative thereof. Accordingly, a preferred recombinant vector according to the first aspect comprises the RNR2 or RNR3 gene operatively linked to GFP, or light emitting derivative thereof. It is especially preferred that the vector additionally comprises a non-functional kanMX3 module. Hence, a most preferred recombinant vector according to the first aspect of the invention is pGenRNR2, as illustrated in Figure 24. The nucleotide sequence of pGenRNR2 is given in Figure 26 (SEQ ID NO:3). Another preferred recombinant vector according to the first aspect of the invention is pGenRNR3, as illustrated in Figure 25. The nucleotide sequence of pGenRNR3 is given in Figure 27 (SEQ ID NO:4).

Please replace the text at p. 12, lines 4-15 with the following rewritten text:

Instead of an autonomously replicating vector, the recombinant vector may be designed such that the vector and DNA molecule of the first aspect integrate into a chromosome of the host cell. Such integration has the advantage of improved stability compared to replicative plasmids. In this case, DNA sequences, which favour targeted integration (e.g. by homologous recombination) are desirable. For example, incorporation into the recombinant vector of fragments of the HO gene from chromosome IV of *S.cerevisiae* favours targeted integration in *S.cerevisiae* or

cell lines derived therefrom. It is preferred that the fragment of the HO gene has the sequence as shown in Figure 35 (SEQ ID NO:6), or a derivative thereof. It may also be possible to integrate multiple copies of the integrating vector into the genome of the host cell. This will allow greater expression, and increase the signal output of the light emitting reporter protein even further.

Please replace the text at p. 13, lines 1-6 with the following rewritten text:

Hence, a preferred integrating vector according to the invention is referred to as pGenIn012, and is illustrated in Figure 36. The full sequence of this vector is shown in Fig:41 (SEQ ID NO:8), and is 7515 bp in length. pGenIn012 comprises RAD54 and it will be appreciated that similar integrating vectors comprising RNR2 or RNR3 although not illustrated are in accordance with the invention. pGenIn012 comprises a LEU2-d selectable marker and a non-functional kanMX3 module.

Please replace the text at p. 13, lines 8-13 with the following rewritten text:

Other DNA sequences, which favour targeted integration into the genome, and which may be incorporated into the recombinant vector include sequences from the ribosomal DNA array of *S.cerevisiae*. Such rDNA sequences favour targeted integration in to chromosome XII of *S.cerevisiae*, or cell lines derived therefrom. It is preferred that the rDNA sequence has the sequence as shown in Figure 37 (SEQ ID NO:7), or is a derivative thereof.

Please replace the text at p. 13, lines 28-33 with the following rewritten text:

Hence, a preferred integrating vector according to the invention is referred to as pGenIn022 A-form, and is illustrated in Figure 38. The full sequence of this vector is shown in Fig:42 (SEQ ID NO:9), and is 12093 bp in length. pGenIn022 A-form comprises RAD54 and it will be appreciated that similar integrating vectors comprising RNR2 or RNR3 although not illustrated are in accordance with the invention. pGenIn022A comprises the LEU2-d selectable marker and a non-functional kanMX3 module.

Please replace the text at p. 25, line 47 with the following rewritten text:

Figure 16 shows full sequence of pGen001 in FASTA format (SEQ ID NO:1)

Please replace the text at p. 25, line 49 with the following rewritten text:

Figure 17 shows full sequence of pGen001 in GeneBank format (SEQ ID NO:2)

Please replace the text at p. 26, line 25 with the following rewritten text:

Figure 26 shows the full sequence of pGenRNR2 in GeneBank format (SEQ ID NO:3).

Please replace the text at p. 26, line 27 with the following rewritten text:

Figure 27 shows the full sequence of pGenRNR3 in GeneBank format (SEQ ID NO:4).

Please replace the text at p. 26, lines 43-44 with the following rewritten text:

Figure 33 shows the full sequence of RNR3 sequence including 1kb upstream of start codon in GeneBank format (SEQ ID NO:5).

Please replace the text at p. 26, line 49 with the following rewritten text:

Figure 35 shows a fragment of HO sequence (SEQ ID NO:6).

Please replace the text at p. 27, lines 4-5 with the following rewritten text:

Figure 37 shows rDNA sequence used in multiple copy rDNA integrating plasmids according to the invention (SEQ ID NO:7).

Please replace the text at p. 27, line 19 with the following rewritten text:

Figure 41 shows the full sequence of pGenIn012 in GeneBank format (SEQ ID NO:8).

Please replace the text at p. 27, line 21 with the following rewritten text:

Figure 42 shows the full sequence of pGenIn022A in GeneBank format (SEQ ID NO:9).

After page 70 and beginning at page 71, just prior to the claims, please insert the following:

-- SUMMARY OF SEQUENCES

SEQUENCE LISTING

(1) GENERAL INFORMATION:

<110> Gentronix Limited
Walmsley, Richard M
Billinton, Nicholas

<120> Genotoxicity Testing

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